PFP Demolition Briefing

May 2017

ch2m

U.S. DEPARTMENT OF ENERGY

PFP: Last Stop of Plutonium Production at Hanford

Employees working in glove boxes during plutonium production at PFP. PFP produced approximately two-thirds of the nation's plutonium stockpile.

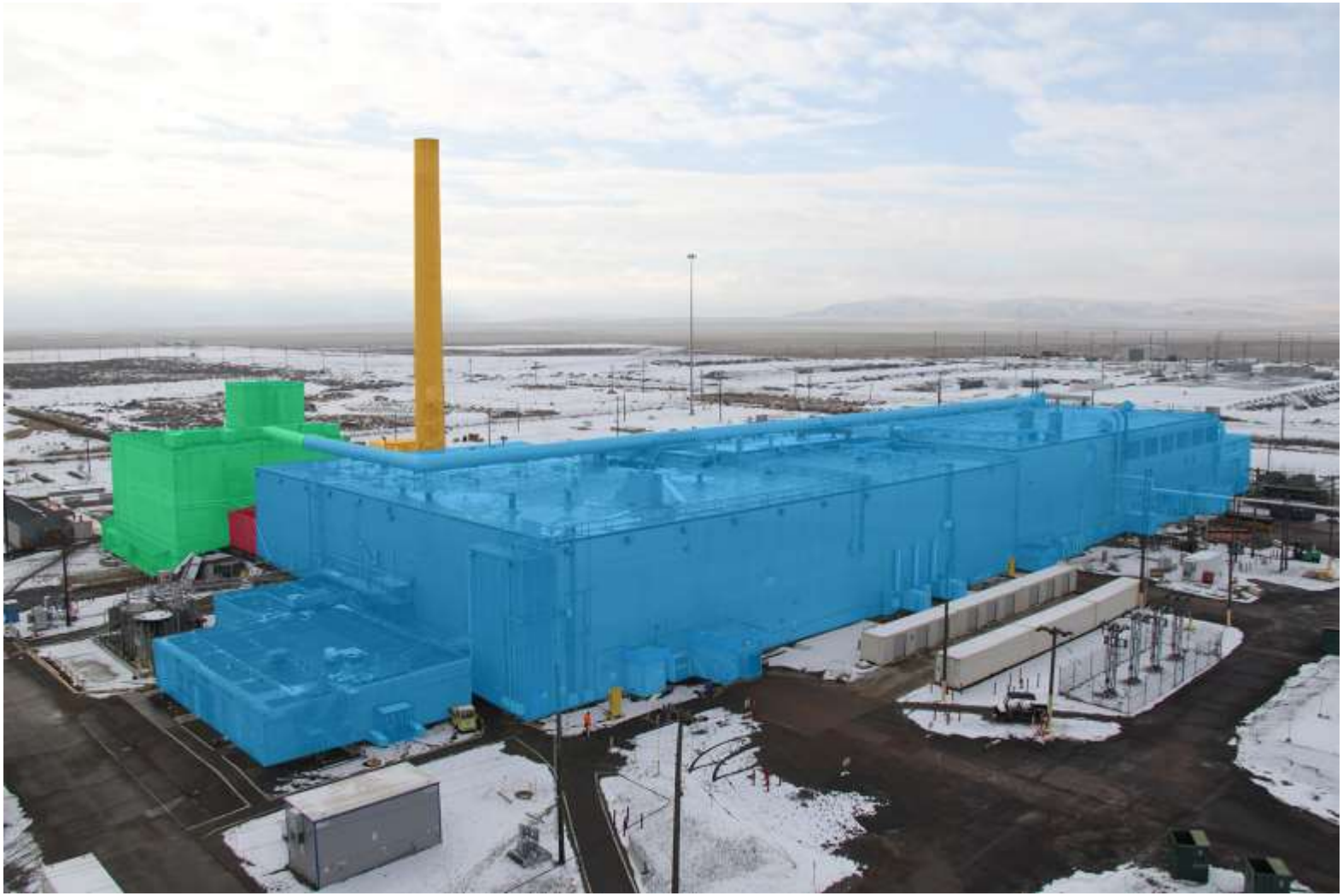
PFP: The Lay of the Land

236-Z
Plutonium Reclamation Facility (PRF)

242-Z
McCluskey Room

234-5Z
Plutonium Finishing Plant (PFP)

291-Z
Fan House, Stack



PFP Demolition Progression

PFP – August 2010

PFP Demolition Progression

PFP – September 2016

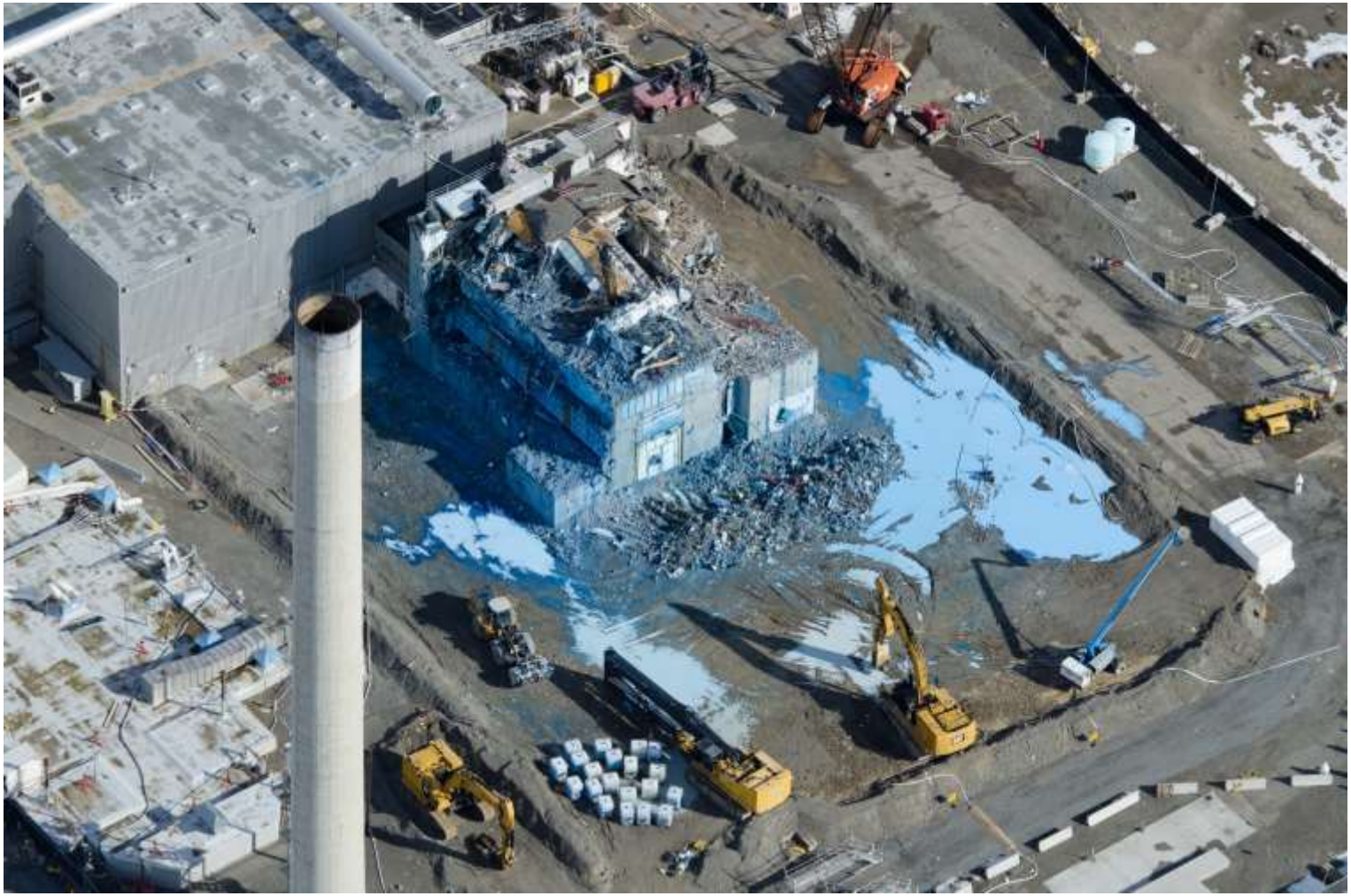
PFP Demolition Progression

PRF Demolition – November 2016

PFP Demolition Progression

PRF Demolition – December 2016

PFP Demolition Progression

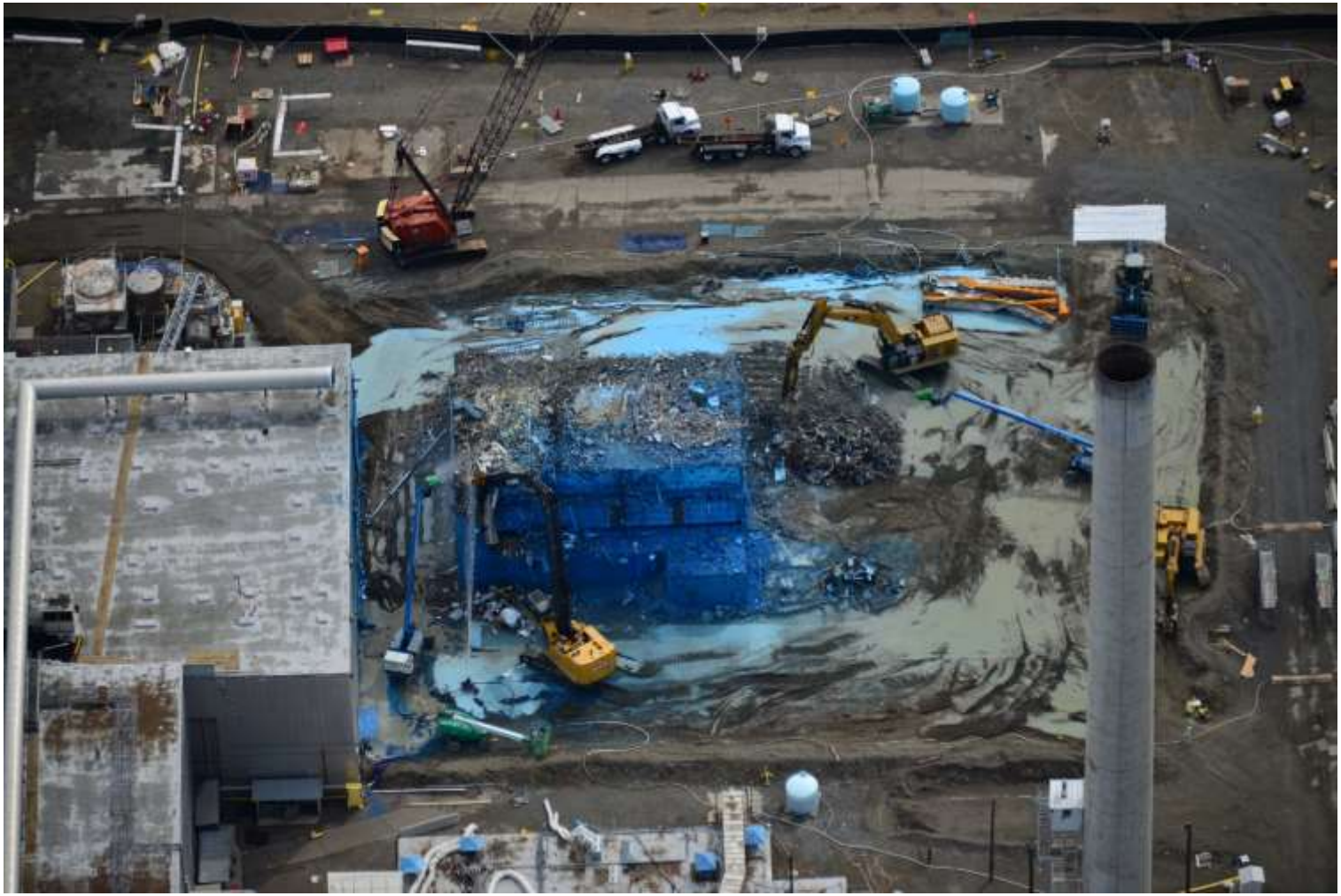


PRF Demolition – February 2017

PFP Demolition Progression

PRF Demolition – March 2017

PFP Demolition Progression



PRF Demolition – April 2017

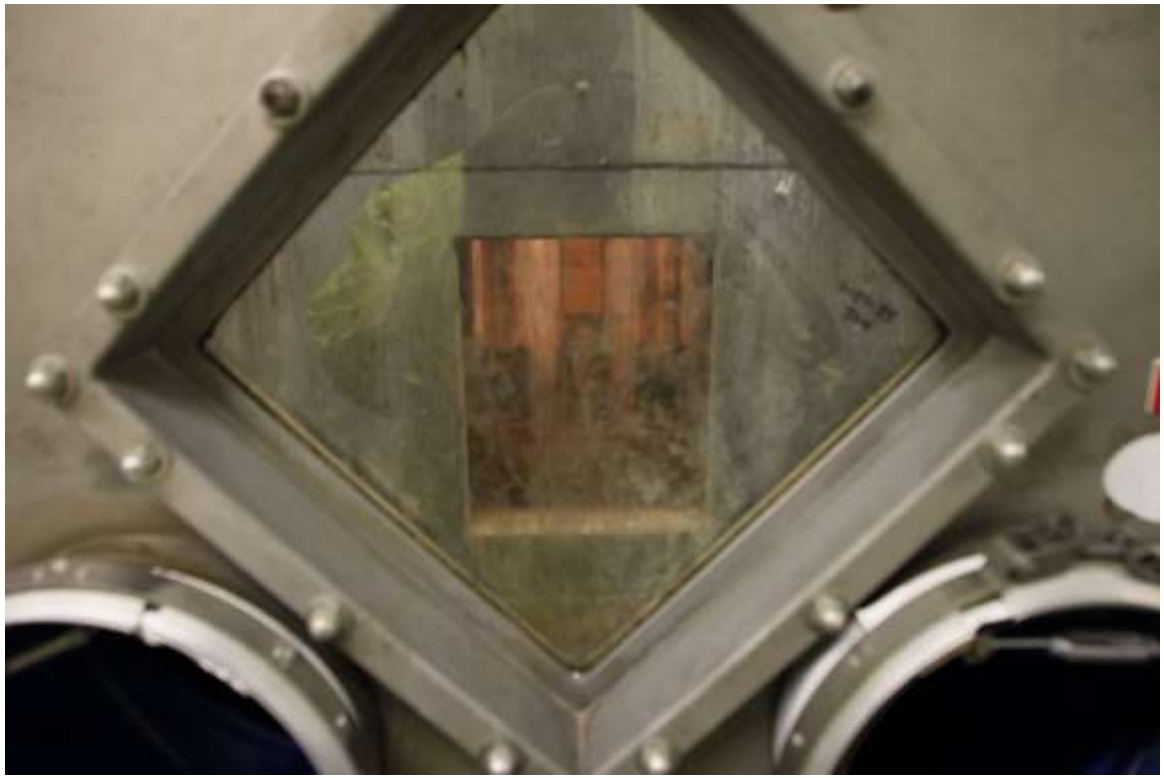
PFP Demolition Progression

PRF Gallery Glove Boxes

PFP Demolition Progression

PRF Gallery Glove Boxes

PFP Demolition Progression



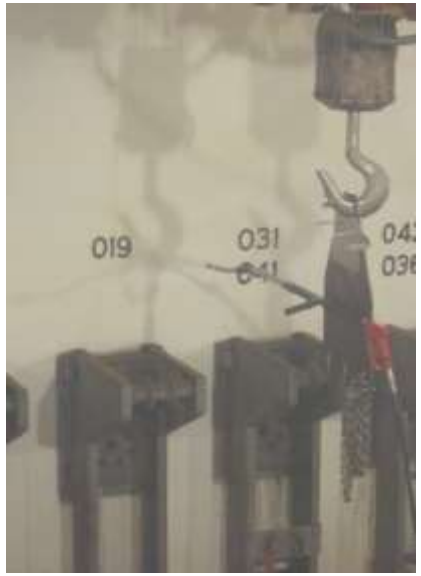
PRF Gallery Glove Boxes

Hazards Removed/Mitigated before Demolition







Hazards Removed/Mitigated before Demolition

Summary of Demolition Progress

- Demolition complete of one of four main buildings (242-Z)
- Demolition well underway on PRF
- Proven robust hazard mitigation, control and monitoring
- Crews redeployed to complete demolition preparations
- Demolition to continue through Summer 2017

Hazard Mitigation: Summary

Beryllium	Asbestos	Radiological
Maintaining beryllium controls as a conservative measure Postings as necessary Extensive fogging, water suppression and fixative used Fully characterized according to Hanford Site Chronic Beryllium Disease Prevention Program (CBDPP)	Removed 32,527 of 36,694 ft^2 of asbestos insulation (4/17/17) All friable (easily crushed) asbestos removed All transite (asbestos-containing) panels to be removed prior to demolition Will be fully characterized according to EPA demolition standards (40 CFR 61.145) and CHPRC guidance for demolition (PRC-GD-EP-52776)	Source term removed or prepared for removal during demolition Extensive fogging, water suppression and fixative used Boundaries modeled by PNNL based on conditions Will be fully characterized according to sampling and analysis plan (DOE/RL-2004-29)

Air Monitoring for All Hazards

Conservative Demolition Prerequisites

- Real time radiological monitoring helps control process
- Ground maintenance, fixatives and fencing to avoid contamination spread
- Expeditious packaging and load out of contaminated debris
- Modeling dictates ready for demolition criteria
- Fixatives and fogging to control airborne hazards
- Water runoff management

Air monitoring

Demo fence/silt fencing

Precision fogger at PFP

Hazard Mitigation: Radiological

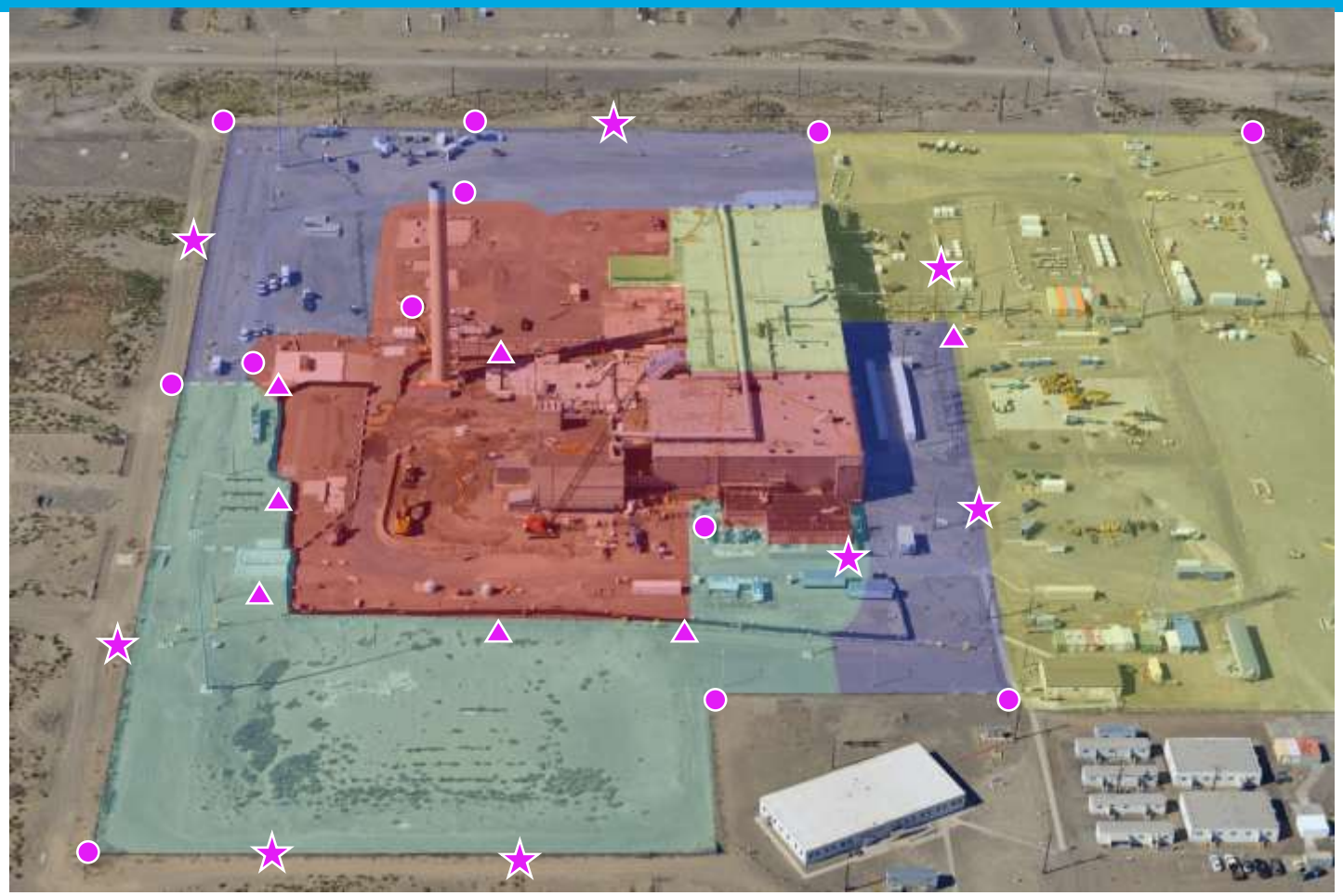
- The highest contaminated items removed as a unit before, or prepared for removal during, demolition
- Residual surface contamination controlled via fixative and/or epoxy prior to demolition
- Extensive fogging, water suppression and fixative used
- Boundaries modeled by Pacific Northwest National Lab based on radiological conditions and demolition methods

242-Z painted out

Painted out gallery glove box

Air Monitoring for All Hazards

Site Map – Zones and Monitoring



Outer Fence/Laydown Area
Radiological Buffer Area
HCA/ARA
Contamination Area

Extended Air Monitoring

Environmental Air Sampling Locations Near PFP

Timeline and Sequence

Demolition Sequence and Duration					
1	Plutonium Reclamation Facility (236-Z)	Nov. 2016-July 2017	3	Plutonium Finishing Plant (234-5Z)	June 2017-Aug. 2017
2	Americium Recovery Facility (242-Z)	Complete!	4	Ventilation Stack and Fan House (291-Z)	June 2017-July 2017